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ABSTRACT

This paper summarizes the results of a survey of recent unpublished research studies, conducted in private industry and business, on the effectiveness of a variety of programs designed to develop management abilities. The purpose of the survey was to obtain information about private industry training evaluation practices which might be used or adapted for use by Federal agencies. Out of a total survey sample of 244, 17 studies were located that were substantial enough to be included in the report. The summaries are organized into two major categories defined in terms of the type of criteria against which the programs are evaluated: (1) external criteria; and (2) internal criteria. In addition, the criteria used in a particular study are classified into four levels of sophistication: (1) participants' reactions; (2) learning; (3) behavior change; and (4) results. Some general conclusions, recommendations, and the questionnaire used in the study are also presented. (CL)

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A Survey of the Effectiveness of Management Development Programs

U.S. CIVIL SERVICE COMMISSION
BUREAU OF TRAINING

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A SURVEY OF THE EFFECTIVENESS OF MANAGEMENT DEVELOPMENT PROGRAMS

May 1971

U. S. Civil Service Commission
Bureau of Training

Foreword

In this report Dr. Michael E. Spautz summarizes the results of a survey he conducted during the summer of 1970. Dr. Spautz's efforts were sponsored by the Commission's San Francisco Regional Office as a part of the summer faculty program.

The objective of the survey was to find out what private industry is doing to validate management development programs. The central office found the report to be informative and useful and is reprinting it here with the thought that others will find it equally so.

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A Survey of the Effectiveness of Management Development Programs

Introduction

This paper summarizes the results of a survey of recent unpublished research studies, conducted in private industry and business, on the effectiveness of a variety of programs designed to develop management abilities.

Objective

The purpose of the survey, which was sponsored by the U.S. Civil Service Commission, was "to obtain information about private industry training evaluation practices which might be used or adapted for use by Federal agencies."

This report merely summarizes the survey data and draws a few implications. It is not within the scope of this report to go deeply into theoretical issues, the design of management development programs, or the methodology of training research. These are quite well treated in several recent publications by Campbell, et al. (1)*, Hesseling (2), House (3), and Kirkpatrick (4).

In view of the limited time and resources available, it was decided to confine the survey to the state of California, where business and industry are highly concentrated in a few metropolitan areas. In some cases, while the respondent was presently located in California, the research was originally done in organizations in other states. (It is estimated that the resulting information probably represents about 10 to 20% of such unpublished research results available in the entire United States.) It was further decided to emphasize research on the lower levels of white collar supervision and middle management. For this reason, several promising leads to studies of executive-level programs were not followed up.

Method

Two hundred and ten short questionnaires (see Appendix 1) were sent to management development practitioners and researchers, whose names were selected from membership directories of the American Society for Training and Development, and the American Psychological

*Numbers in parentheses denote a reference to be found on page 69.

Association. The return rate was 68%, and of these, 40 respondents indicated that they had recently been involved in unpublished research on the effectiveness of management development. Through these initial contacts an additional 34 leads were generated, bringing the total survey sample to 244. The following summaries are based on information obtained from numerous subsequent face-to-face interviews, telephone interviews, and unpublished material furnished by the respondents. In all cases, a preliminary draft of a specific research summary was sent to the respondent for correction and approval.

It should be noted that there was no attempt to randomize the survey sample, as there was no interest in measuring the proportion of individuals or organizations that have been engaged in such research. Rather, names were selected on the basis of high probability of payoff, i.e., individuals known to be research-oriented and/or working for relatively large organizations, which could be assumed to possess the necessary financial and managerial resources to support sizeable management development and related research programs.

Results

Seventeen unpublished research studies were located that seemed, to the present reviewer, to be substantial enough for inclusion in this report. For some of them, there was adequate information to warrant an extensive, standardized summary (see Appendix 2 for a skeleton outline); while for others, only fragmentary information was available. Studies that focus exclusively on participant reactions are excluded altogether from this report, as being of marginal interest. Additional information about management development obtained from personal interviews with other respondents, is presented later, in the discussion section.

The various summaries are organized into the same two major categories as used by Campbell, et al., (1, pp. 287 ff). These categories are defined in terms of the type of criteria against which the programs are evaluated, namely: 1) "external" criteria (e.g., objective performance measures on the job, operating data such as turnover and grievances, and performance ratings by supervisors, peers and subordinates); 2) "internal" criteria (e.g., knowledge and attitude tests, questionnaires completed by the participants to get their opinions about the program).

Within each major category, the criteria used in a particular study will be further classified according to Kirkpatrick's system (4). He recommends classifying evaluation methods into four levels of sophistication, namely: 1) participants' reactions; 2) learning; 3) behavior change and 4) results. Certain approaches, such as attitude test scores, opinions of a man's colleagues about his subsequent behavior, morale and job satisfaction measures, and the impressions of top management concerning the impact of a program on the organizational climate, are difficult to classify according to Kirkpatrick's system; no attempt will be made to force the following research approaches into predetermined categories where they don't obviously fit.

An attempt was made to categorize the studies in terms of specific criteria and training methods; but, as Campbell, et al., (1) found, this proved to be unworkable because most studies were too complex, involving several criteria or several methods.

Discussion

The chronicle to follow may leave one with the impression that management development invariably pays off. A more realistic view might be that, in view of the strong tendency to suppress negative results, we have here only some suggestive evidence about the validity of selected programs in particular situations, with certain kinds of subjects, contents and methods, as gauged against certain criteria. To generalize unequivocally about "the effectiveness of management development" at large would thus not be warranted by the data at hand.

It might appear from these studies that external criteria are more frequently employed than internal criteria. Once again, such an inference would be erroneous, for similar reasons that less worthy efforts are less likely to be followed through to completion and subsequently reported, whether in the published literature or in a survey such as this.

While some of these studies are as sophisticated and conclusive as some in the published literature, most are of limited value from a scientific point of view. Two of the most common shortcomings are the failure to use control groups, and the failure to replicate findings. Perhaps the main contribution of this survey is to give the reader an increased awareness of the variety of training approaches and research methodologies that have been tried out and perhaps a few tips on pitfalls to be avoided in his own programs.

Interviews with training executives, trainers and researchers revealed a widespread agreement as to the difficulty of doing conclusive research in this field. Research on assessment programs (e.g., test validation studies) is generally acknowledged to be relatively easy, because the "predictors" are most readily identified, quantified and controlled, and more amenable to statistical treatment. One of the main problem areas in assessment research, namely "the criterion problem", is at least as troublesome to developmental researchers. Until more reliable and meaningful ultimate criteria of effectiveness are available, we may have to be content with "weak inferences" about the validity of many of our human resources programs.

In short, a large proportion of interviews, including some represented in the forthcoming summaries, have expressed skepticism about the feasibility of "proving" the effectiveness of a specific training technique, such as case analysis, role playing, group-discussion, or simulation exercises. Similarly, few expect to ever "prove" that the Managerial Grid, or Likert's System 4, or McGregor's Theory Y, etc., pays off in terms of increased profits or employee satisfaction. In view of the inevitable presence of uncontrolled factors, such as changes in the level of the economy, shifting patterns of competition and consumer demands, and the "Hawthorne effect", most professionals appear to be reconciled to something less than the kind of "evidence" required to conclusively establish the validity and practical value of other management practices, marketing and engineering, for example. Offsetting this apparent despair of ever turning management development into a hard science, however, is an equally widespread faith and hope, based on a rapidly accumulating storehouse of circumstantial evidence, that, like education, management development programs in general, do appear to pay off in the long run. While widespread, this skepticism is not universal, as here and there one can find purists and dissenters who feel that pin-point research is indeed possible, if we are only sufficiently dedicated and sophisticated in our measurement techniques. Promising suggestions, not yet widely attempted, include the use of moderator variables to categorize trainees into more homogeneous samples, for research on differential effects. For example, there is reason to suspect that certain character (or personality, or attitude) dimensions such as authoritarianism, need for achievement, perceived internal - or external - control of rewards, may have an interactive effect with a particular training outcome. Just as a highly intelligent student is likely to learn more, faster and better than a less intelligent student, so a non-authoritarian manager may be more likely to profit from a participative developmental experience. However, this is the kind of hypothesis that apparently is seldom tested, perhaps because it is difficult to get support for research that may be seen to have serious political implications.

However, an interesting but paradoxical example of the interaction of personality characteristics with performance, was recently reported by Perczel. (5) Essentially, what Perczel found was that ability and motivation in managers, while positively

correlated at high and at low levels of performance, are negatively correlated at moderate levels of performance. While his study was not done in a developmental context, his results may have important implications for management development. For example, consider a typical program, whose subjects are mostly moderate performers, not particularly high or low. In theory, the brighter ones, after training, should be better performers than the duller ones, since, being brighter, they could be expected to learn more. However, given Perczel's findings, this result would be likely only if specific steps are taken to increase the relatively low level of motivation of the brighter students, who have apparently learned to coast. It is for this reason that some development experts feel that the key to increasing productivity in industry is not to increase the motivation of everyone on the payroll but to concentrate on increasing the motivation of under-achievers. White-collar underachievement may be in part a function of social pressure against "rate busters", and in part a function of "following the lines of least resistance" in an affluent society where the Protestant ethic appears to be obsolescent.

In following up on the success of graduates of a T & D program it is easy to overlook other factors that can trap us into making erroneous conclusions.

For example, Rusmore (6) found differential promotion rates associated with various position description factors, in two large public service organizations. In other words, if traditional measures of success, in terms of promotion rate, are used to evaluate the effectiveness of management development, for a heterogeneous group of managers, it will be desirable to stratify the trainees in terms of their organizational functions. Rusmore's evidence shows that managers have a relatively high probability of success (i.e., promotion rate) if their main functions are in long range planning, the exercise of broad powers and authority, or in utilizing technical knowledge of products and markets. Conversely, those whose main function is to provide staff services to non-operating units (e.g., Personnel?), have a relatively low probability of success.

If such factors are not considered in evaluating the impact of development programs on a man's career, for example, it is likely that a man with high potential who happens to be stuck in a low-potential job, could be erroneously labeled as a failure, even if his own

promotion rate is superior to the mean of his functional peers. In such a case, if his progress in the organization appears to fall short of the progress of more fortunately placed managers, we would be in danger of labeling him as a failure, and erroneously concluding that, for him, a development program (e.g., an MBA education) had no measurable effect.

And conversely, a man who is promoted ahead of his age group may be considered more successful and, therefore, more talented. Such an inference might be in error, as the promotion rate could be more associated with the tasks of the position than with the man's qualifications.

The advisability of replicating validity studies is demonstrated by the following experience of the present author. In 1962, an attempt was made to measure changes in attitudes associated with sensitivity training of business executives at U.C.L.A. About sixty trainees participated in 4 T-groups of about 15 each. (The program is described elsewhere in this report.) The attitude change instrument used was a specially designed version of the Semantic Differential, using only the evaluative dimension.

At the beginning, and again at the end, of the program, each trainee completed the form to indicate his attitudes toward several key concepts, namely: Me, as I am; Me, as I would like to be; My Boss; My Colleagues; My Job. Analysis of the results indicated significant shifts in attitudes in the predicted direction, showing attitude closure between the first two concepts (= more acceptance of the self), and improved attitudes toward some of the other concepts. These results were interpreted as support for the effectiveness of the T-group experience.

However, it was decided to replicate the study with minor changes, during the next round of T-groups, with another sample of about 60. This time there were no statistically significant improvements in their attitudes. In fact, in one of the T-groups, a distinct change for the worse was apparent, which upon investigation was attributed to some sort of unfortunate episode that occurred in that group right before the instrument was administered at the last meeting. (Because of the confidentiality of the T-group situation, the nature of the unfortunate episode was not revealed.) In any case, the results of the replication

failed to substantiate the results obtained earlier. The fact that the study was not submitted for publication (the fault of the present author) tends to support the widespread suspicion of bias in the published literature. One can only speculate as to how the positive results reported in this survey report would stand up under replication!

The use of sensitivity training for management development may be entering a new phase, as many of the present survey respondents seem to agree. Training executives more often than not indicated that they are moving to more structured, problem-oriented forms of laboratory training. For example, consider the following information about the trend in one of the foremost users of laboratory training.

A long-time leader in the use of experience-based learning and group development methods for management and executive development, TRW Systems of Redondo Beach, California, has over the past several years moved aggressively into Organization Development. As the following excerpt from N.I.C.B. Case Study 10 shows, this OD movement represents not only an emphasis on individual development, but also a team-building, group problem-solving, management-for-results approach.

> "TRW began experimenting with one of the elements of the process - that of sensitivity training - in 1963, and for quite some time the company's involvement included sending a few executives at a time to an NTL or a university laboratory. While the company regarded these "classic" laboratory training sessions as valuable for the men who attended them, there was no "built-in" way of linking the experience into their behavior back on the job. The vice president for industrial relations said, "The laboratory often is an intensive experience, but people can experience tremendous letdowns when they return to their work culture, even if that culture is a highly supportive one."

Task-oriented T-Group

For this reason, TRW has modified sensitivity training to include job - or task-oriented development. "If people are in a lab and they learn to level with each other about their feelings, they have begun to do something useful," said the same vice president. "But if that's all they do, the experience has relatively minimal

usefulness compared to what it could accomplish if people relate to each other within the organizational setting around task issues." (7)

This does not mean that TRW is phasing out of sensitivity training, but that it has added, with a significant investment of energy, other formats such as team building and intergroup problem solving meetings to focus less on strictly personal and interpersonal behavior, more on problem identification and solving, communications, goals and objectives of the organization. In short, there is increased emphasis on "team building" and problem solving.

As an integrated part of the total management development program, TRW has also moved toward a greater use of Management Training - individually focused, content oriented training in managerial skills and knowledge. A major part of this training program is a nine day, in-house Basic Management Development Course for middle managers.

STUDIES USING EXTERNAL CRITERIA

(Note that several of these studies also use internal criteria. Also, note that parts of these summaries are verbatim quotes from original unpublished source documents, while other parts are paraphrases. In all cases, these summaries were prepared by the present author, but cleared by the survey respondent.)

1. Bank of America, San Francisco, Ca.

2. Supervisory Training Conference (Operations)

   a. Objectives:

      1) To give useful information and practice in the supervisory skills required of operations officers.
      2) To clarify the leadership requirements and opportunities of first-line supervisors.
      3) Specific behavioral changes sought include, but are not confined to, improvements in the following: method of employee coaching and counseling; open-ended interviewing, cross-training in spare time; setting high standards while showing respect for the individual; using specific incidents in performance appraisal; recruiting employees; using telephone checks in hiring.

   b. Participants numbered over 400 branch operations officers, who supervise the work of tellers, clerks and office machine operators. About two-thirds were men, ranging in age from the low 20's to low 60's, averaging about 12 years with the bank.

   c. Company training facilities were used.

   d. The program lasts three days, and is offered quarterly.

   e. Trainers are former successful operations officers, trained in teaching methods.

   f. Subject matter includes: the supervisor's job; interviewing and selecting new employees; training methods and motivating employees; counseling and coaching; planning; performance reports; and the responsibilities and functions of Area Administration. Extensive participation is used, including case analyses, incident process, role playing, and oral presentations with feedback.

3. <u>Evaluation</u>

   a. Several types: reactions of participants (not reported here, but stated to be uniformly favorable); learning; behavioral change; and results.

   b. A sample of 100 participants was randomly selected, stratified by size and location. Evaluation information was obtained directly from the participants, from their immediate superiors (branch managers), and from one of the participant's subordinates, who was selected by the branch manager.

Instruments used were:

1) A 15-item Job Information Survey (a behaviorally-oriented knowledge test), was filled out by each participant on the basis of self-perceived current (one year after training) behavior, and also on the basis of how he thought he would have answered the question a year earlier (pre-training). The questions were designed to cover the job functions of: employee selection, orientation, training, staff meetings, coaching and counseling, and writing performance reports.

2) A short survey form, the Branch Manager Questionnaire, was completed by the participants' superiors; it was designed to provide job behavior information comparable to that provided by the participant.

3) A longer, similar survey form to be completed by one of the participant's subordinates.

4) A summary of branch operation statistics, measuring employee absenteeism and vacations, "current index" (a complex, quantitative measure of the bank's productivity) and employee separations. Data from a period of three months right before training, and again for a three month period after training, were used, to see if there were any measurable changes.

c. Results:

1) On the Job Information Survey, filled out by the participants, the following changes were observed:

	Male (N=50)	Female (N=30)
Average test score before	38.6	39.2
Average test score after	58.4	56.4
Average test score improvement	19.8	17.2

To summarize, substantial improvement was shown by both groups but inter-group differences were not significant.

Item 2 of the 15-item test will serve as an example of the method used to measure results:

	No. of replies		
	One year Ago (pre-training)	Present Answer	Difference
When I must reprimand a teller for excessive tardiness in the morning, I:			
A. Say good-naturedly, "Good afternoon"	23	2	-21
B. Tell her if she continues to be late it will affect her next salary increase	7	2	- 5
C. Remind her that the other girls aren't late and she is upsetting morale.	16	4	-12
D. Ask her why she is late and what specifically she is going to do about it.	35	74	+39

2) On the Branch Manager Questionnaire, the following mean ratings were given to the participants by their superiors (note that the ratings were made on scales ranging from 1 = very good, to 5 = poor):

Area Rated	Before	After	Change
Selection	2.5	2.0	.5
Orientation	2.5	2.0	.5
Training	2.6	2.1	.5
Staff meetings	2.5	1.9	.6
Coaching	2.8	2.2	.6
Performance appraisals	2.5	1.9	.6

Statistical treatment of these data indicated that each change was significant, revealing a consistent pattern of improvement. (Management feels that the real amount of improvement is obscured by the perhaps artifically high "before" ratings, which are "above average".)

3) The Subordinate Questionnaire data were not analyzed, as their usefulness was undermined by excessive use of the "don't know" category and blank

responses. Interpretation of the results was also hampered by the absence of before-training data.

4) On the branch operating statistics criteria, the observed changes were not considered significant. This result was anticipated, because of the short duration of the training program, uncontrolled factors, and because the data were too far removed from the training objectives to provide suitable criteria of behavioral change.

4. Conclusions

The above results provide evidence of the effectiveness of the training program, on the basis of self-reported behavioral change, and perceptions of the participants' superiors. However, the results are based on an incomplete analysis of the data, and additional analyses (e.g., breaking it down by branch size and location) are contemplated. In view of the post-hoc design of this study, the researchers caution that the results, while generally positive, do not conclusively demonstrate the program's effectiveness.

1. Hughes Aircraft Co., Aerospace Group, Culver City, CA.

2. Management Action Workshop

   a. Objectives:

      1) Learn new ways of understanding how organizations function.

      2) Develop more effective skills in communication with others, including such day-to-day needs as employment interviewing, performance appraisal, and disciplining.

      3) Acquire the capacity to more effectively delegate, motivate, and set objectives with subordinates.

      4) Identify one's own leadership styles and areas of potentially greater effectiveness.

      5) Improve decision-making ability.

      6) Better understand and more effectively interface with the various company management systems.

      7) Satisfy contractor requirements for greater management effectiveness.

      8) Feel a more significant part of management.

   b. The participants are middle level managers, including Section Heads, Senior Project Engineers, Senior Systems Engineers, Chiefs and Superintendents. As of this date, 467 participants have gone through 27 workshops.

   c. The setting was at a suburban hotel, in order to remove the participants from day-to-day problems at home and at work.

   d. The workshops lasted 4 days, full time, from Tuesday evening to Saturday afternoon. The participants stayed at the hotel overnight.

   e. There were six workshop staff members who participated in various parts of the workshop including one full time and four part time/consultant members of the Personnel Development and Organizational Effectiveness Department and the Assistant Manager of the Management Systems Division.

   f. The program is a workshop design: theory presentations followed by exercises which will simulate key job activities in order to emphasize application to the job. Appropriate time is provided to permit discussion of important issues facing managers.

Each workshop is limited to 20 participants to permit a high degree of personal involvement and interaction.

The workshop is divided into five major content areas:

1) Communications
2) The Man in the HAC Management System
3) Job Performance (including setting objectives, delegation, motivation and performance appraisal).
4) Leadership Styles and Leadership Effectiveness.
5) Decision-making and Problem-solving.

The main focus of these sections is on a real-life, back home problem. One section of the workshop is devoted to identifying on-the-job problems which are to be worked on using workshop skills.

Finally, about two months after the workshop, the participants reconvene for a brief review of the workshop and an opportunity to discuss the results of the back-home problems. Participants are thus able to share ideas (based on actual experiences) about the effectiveness of the various approaches presented during the workshop.

3. Evaluation

a. Several types of evaluation were made, including: 1) participant reactions, 2) attitude changes, 3) knowledge and skill improvement, 4) subsequent problem-solving, 5) cost effectiveness.

b. Methods:

1) Participant reactions were obtained by means of oral and written critiques, using a standard set of open-ended questions to get at various aspects of the Workshop, including general reactions, the extent to which his expectations were met, how it could have been more relevant to his job, and the value of the various workshop experiences.

2) Attitude changes were measured by means of a special semantic differential questionnaire given before, immediately after and two months after the workshop. This questionnaire uses 16 bipolar phrases to measure each participant's expectation (pre-test) and, later, actual views (post-test) of the total Workshop experience. A quantitative scoring system was developed to summarize the "expectations" and "actual" views for each of the 27 workshops, and profile charts were drawn.

3) Perceived changes in the participant's knowledge and skills were measured by means of ratings on six functions, each which has a maximum possible rating of 100 (see the results below, for the six functions). Each participant and his immediate superior independently completed the rating before the Workshop, and again four months after the Workshop, estimating the participant's competence.

4) Subsequent problem-solving was determined by means of the participant's self-reported success in solving a real-life on-the-job problem that he had identified before the Workshop. This information was obtained informally at special group meetings with the participants, held two months after the Workshop.

5) Cost effectiveness was likewise informally determined, as objective data were not available. A small sample of eight participants was interviewed and asked whether participation in the Workshops had increased cost effectiveness.

c. Results:

1) The reactions of the participants were generally very favorable, with few reservations.

2) On the semantic differentials, average scores for the 27 groups were as follows, on a scale having a maximum high value of 100:

	Expectations	Actual	Gain
High	81	87	20
Average	73	81	8
Low	67	*69	-1

*The workshop administrator was absent from this session and other staff members filled in for him.

This result was interpreted to mean that all groups but one found the workshop to surpass their expectations--which is in keeping with the above findings on their reactions.

3) On the rating of estimated competence, the average scores are as follows:

	Ratings by Supervisors			Self-Ratings by Participants		
	Before	After	Gain	Before	After	Gain
How companies work	65	74	9	57	66	9
How to be a good mgr.	76	82	6	70	77	7
Where AG* is going	63	74	11	62	64	2
How does AG* work	68	75	7	61	68	7
How leaders lead	63	77	14	63	72	9
How people talk to each other	76	86	10	74	80	6
How people work together	78	88	10	75	80	5

(*AG= Hughes Aerospace Group)

(Note: on the scales used, a score below 50 indicates a negative rating; the maximum possible score is 100.)

4) On the cost effectiveness variable, all eight responses were in the affirmative although only half of them could be specific. The specific illustrations were as follows: From what I learned about motivation, we taught a group of TEs to use computers. Now, they contribute so much more it's unbelieveable...increased efficiency plus doing jobs that more expensive engineers did.

...a smoother running organization. Have been able to channel energies of my people into more productive pursuits.

Sure, it's saved money...met experts at the Workshop that don't cost...exposed me to other specialist areas to consult with. Made my job easier.

...an opportunity to sit back and start better organizing my workload. Now able to be more flexible and act quickly...learned to carry the job to the people - to delegate. I found free time for more important work.

4. Conclusions:

"The above results are gratifyihg give considerable credence to the hypothesis that attendance at the Workshops leads to increased managerial effectiveness. Although some participants apparently do not benefit from the experience, we estimate that 80-90% do benefit in a measurable way. In terms of the total Aerospace Group, the Management Action Workshop participants can be viewed as a series of small payoffs which collectively integrate into a measurable improvement in Aerospace Group managerial effectiveness. Continuous management development activity is necessary in order to continue the trend in that direction."

1. Kaiser Aluminum & Chemical Corp., Oakland, Ca.

2. Organization Development Laboratory

   a. Objectives:

      1) To build a more effective team, with concentration on communication

      2) To improve group decision-making skills

      3) To secure commitment to meaningful goals

   b. The participants were 11 managers from the various levels and functional specialities of a subsidiary plant. These men represented the core of the management team, so that they might be said to constitute a "family group", as opposed to a gathering of unrelated managers typical of many other T & D programs.

   c. The sessions took place on Company premises.

   d. The laboratory experiences covered a 4½ day period, full time, preceded by several preliminary meetings designed to work out the general objectives of the developmental sessions proper.

   e. The training coordinator was a professional psychologist from the Corporate headquarters, who was experienced in organizational development and OD research methodology.

   f. The contents and methods can be outlined as follows:

      1) Several preliminary meetings and interviews were held between the development coordinator and key executives to develop strategy, determine what the pressing problems were, stimulate involvement and commitment, and provide an opportunity for the coordinator to understand the plant's communication channels, methods of decision-making and approaches to problem solving.

      2) The first half day of the development laborabory proper, was devoted to group discussions in which the objectives were more specifically defined and refined, and previously gathering information fed back to the participants.

      3) Then, the team was divided into four small groups for an exercise in communications, the purpose being to support the use of behavioral feedback and "process-observation."

4) Next, the team worked in groups on a priority listing of issues that they felt should be tackled during the rest of the lab.

5) This was followed by a group decision-making exercise to facilitate the team's ability to use the knowledge, experience and interests of the members.

6) For the remainder of the lab, the team worked alternately in small groups and together, on goals, commitments and objectives for the next year. Interspersed were theory sessions and exercises (such as brainstorming) designed to facilitate team goal-setting. This resulted in an outline of action steps for achieving the mutually-determined goals.

3. Evaluation:

a. The types of evaluation used were participant reactions, subsequent behavior changes as perceived by two top executives, and improved operating results.

b. Methodology:

1) Participant reactions were determined by a group interview at the close of the laboratory.

2) Behavior change observations were obtained by means of interviews with the Division Manager and the Works Manager, the top executives in the organization.

3) The Works Manager reported on subsequent cost reduction figures and his assessment of the extent to which the plant was later meeting its performance goals.

c. Results:

1) There was consensus among the participants that the group had met all the individual and group goals which had been set, particularly in improving communication and decision-making skills, and developing a set of group goals, with action plans, for the next year.

2) The Division and Works Managers reported the following outcomes:

a heightened sense of enthusiasm and team work, not just among the members of the management team, but also among their subordinates.

- Less defensiveness and decreased concern about "personal stakes" and status.
- Less "Yes-sirring."
- Greater effort to clarify task assignments and objectives.
- Increased volunteering of creative ideas for influencing sales.
- More commitment and eagerness to make a concurrent reorganization work, and less widespread anxiety and covert resistance, than normally expected and encountered.
- However, it was felt that the group needed to give more emphasis to short-term goals and plans, as they were concentrating quite heavily on long-term planning.

3) The Works Manager cited the fact that cost reduction figures improved by 59% two months later. He also felt that the lab experience was directly responsible for the fact that the plant was subsequently meeting all performance goals even though they were higher the previous year's, and volume of business was at an all-time low.

4) An additional outcome of the lab was a shared perception in the plant that there is value in groups spending time in team building in order to most effectively use the resources of the group members.

4. Conclusions:

This form of organizational development, or "team building", has demonstrated value in helping management determine and achieve its objectives. Furthermore, there was substantial evidence that the effects were extended beyond the participants to lower levels of the organization.

1. Lockheed Aircraft Corporation, Burbank, Ca.

2. Lockheed Management Institute

   a. Objectives:

      1) To increase understanding of management policies, principles and practices.

      2) To improve effectiveness on present job performance.

      3) To accelerate preparation of participants for positions of higher responsibility.

   b. Participants were several hundred managerial and staff personnel, ranging from supervisors to division managers, representing a wide range of functions throughout the Company.

   c. The setting was the campus of the University of Sothern California.

   d. The program is held several times each year, and lasts three weeks, full time.

   e. The trainers consist of Company personnel and USC faculty members.

   f. The curriculum consists of highly participative classes, using case-study methods for the most part. The contents include a wide variety of modern business concepts, as well as the philosophy and rationale of Company practices. A typical session covers the following topics and devotes approximately the following percentages to each topic:

Managerial skills & problem-solving	25%
Management control & operating problems	23%
Interpersonal relations	23%
Information about Lockheed	17%
The external environment	6%
Communications	6%

3. Evaluation

   a. The effectiveness of the program was measured in terms of: reactions of the participants, their subordinates, other managers, top management, and USC faculty (to get at observed behavioral and attitude changes); and increased knowledge.

   b. The primary objectives of the research were to 1) determine the effects of the Institute on knowledge, skills and attitudes; and 2) to identify opportunities for improvement.

The research effort was designed to focus on the objectives, faculty, participants, content and structure of the Institute. Following are only the most salient methods and results of an extensive research effort. A representative sample of each of the above groups was interviewed to determine their reactions toward the Institute, how it could be improved, and what impact it had on the subsequent performance of the participants.

To get at the effects of the Institute or the participants' knowledge, a test of the facts and principles presented at the Institute was administered before and after their attendance.

c. Results:

When the results of the various steps were combined, certain benefits of the Institution became especially apparent:

1) The establishment and strengthening of inter-organizational communications, resulting from the heterogeneous mixture of the participants. Participants and observers frequently reported that inter-departmental functional relations were clarified, and relations with personnel in other parts of the organization were facilitated.

2) Forty percent of the participants interviews stated specific occasions in which they actually used newly learned principles in relating to their subordinates.

3) On the knowledge test, there was a significant average gain after attendance at the Institute. (No details were reported in the source document.)

4. In conclusion, analysis of the interview results, in relation to the training needs expressed by top management, showed that the Institute was particularly helpful in promoting improved communications, increased understanding of other functions, more effective interpersonal relations, and more efficient problem-solving.

However, the research findings also showed that to increase the effectiveness of the Institute, it would be useful to improve the following characteristics of the participants:

a. motivation to improve one's managerial skills

b. willingness to accept responsibility

c. enthusiasm and energy

d. receptivity to change.

The researchers concluded that increased attention should be given to establishment and communication of detailed Institute objectives.

1. Lockheed Aircraft Service, Ontario, Ca.

2. Seminar and Practicum on Principles of Motivation.

   a. The objective was to develop the participants in "finding better ways to do things". In other words, to increase productivity by involving employees more in solving problems related to their jobs.

   b. The participants were five first line group supervisors, representing the machine shop, metal fabrication, inspection, planning and scheduling, and purchasing. Participation was on a voluntary basis.

   c. The seminar was held on company premises.

   d. There were four meetings, once a week, of about 1½ hours each. These training sessions were interspersed with two or three meetings between the supervisors and their work groups.

   e. The trainers were two professionals from the Company's Industrial Relations and Personnel staffs.

   f. The training sessions consisted of group discussions on employee motivation, stressing workers' needs for feelings of achievement, responsibility, recognition and reward (Herzberg's "motivators" or "satisfiers"). Additionally, the participants received instruction in how to conduct meetings with employees, with emphases on listening and postponing evaluative responses to their ideas.

   After the first two sessions, several problem-solving meetings were scheduled, in which each participant met with his subordinate work group to apply his knowledge and practice the skills he had been exposed to during the first two sessions. Thus, the participants took on the role of trainers, under the observation of the Personnel and IR representatives.

   The first meeting in each case was focused on "finding better ways to do things", a sort of brainstorming session, during which the suggestions were listed on a large pad. The supervisors's role was to help clarify the problems, and later to lead discussions. In subsequent meetings, the groups discussed each

problem and possible solutions. In short, the supervisors, in several work-group meetings, interspersed with their own instructional sessions, practiced what they were learning in a real-life setting, on real problems. Thus, theory and practical application were alternated over a period of several weeks. (Note that higher levels of supervision were present at the last meeting.)

3. Evaluation

a. The effectiveness of this supervisory training program was measured in terms of 1) changes in performance data; 2) changes in employee attitudes; 3) participant reactions.

b. Methods:

1) at the start of the project, measures of performance varied in the groups from very detailed and comprehensive to almost nonexistent.

a) In the metal fabrication section (including the machine shop, for this purpose), productivity figures over time were measured in terms of "percent realization."

b) In the planning and scheduling group, productivity was measured in terms of the release of shop orders.

c) In the inspection group, productivity was measured in terms of the average number of hours of elapsed time between completion of production of items, and completion of their inspection.

d) In the purchasing group, productivity was measured in terms of items per buyer man-hours.

2) Employee attitudes were measured by means of a 23-item questionnaire administered before and after the training program. The items related to employee participation and supervisory behavior related to employee motivation. (The sample size was not indicated in the source document.)

3) Participant reactions were measured by means of taped interviews.

c. Results:

1) a) In the metal fabrication section, productivity rose steadily over an 11-week period, from an average of 86 to 98.

b) In the planning and scheduling group, productivity varied greatly during the measurement period, but the modest average gain was considered inconclusive.

c) In the inspection group, the average inspection time declined from 5.5 to 2.9 hours, from June to September.

d) In the purchasing group, the cumulative average of items per buyer man-hour rose from 2.1 to 2.6, from July to November.

2) On the attitude measures, the following average changes were observed:

Metal fabrication	-12% favorable
Machine shop	- 5% "
Planning & Scheduling	(analysis not done)
Inspection	+ 5% favorable
Purchasing	+18% "

In addition, detailed item analyses were made, which showed specific areas of attitude change.

3) Participant comments were not quantified or categorized, but a thematic analysis showed that the participants felt that they had gained a better understanding of their own and the Company's problems; communications were improved; employees identified more with management; but in some areas, the workers felt that management did not view their suggestions in the cooperative spirit intended.

4. Conclusions:

The results were generally favorable. However, because a number of concomitant changes were made, e.g., in supervision and work load, the results could not conclusively be attributable to the training program. However, it was concluded that:

a. At the conclusion of the project, measures of productivity showed some improvement in every group.

b. The program was not sufficient to significantly change attitudes.

c. Verbatim comments of participants show a generally positive feeling.

d. Perhaps the greatest value of the survey was to show that some serious problems still exist and appear to warrant management's attention.

1. Union Oil Co., Los Angeles, Ca.(8)

2. Seminars in Organizational Relations

   a. Objectives:

      1. "To expand the participant's understanding of himself, including similarities and differences between his self-concept and how others perceive him.
      2. "To increase his understanding of the motivation and behavior of others.
      3. "To improve his understanding and use of the management process.
      4. "To increase his communication skills.
      5. "To improve his skill in exploring and analyzing problems involving people.
      6. "To improve his decision-making ability.
      7. "To increase his understanding and skill in interpersonal relations through using the Seminar as a clinical experience in which to experiment--with minimum risks and penalties--in relating effectively to others.
      8. "To increase the knowledge of the participant concerning the operations and personnel of company functions outside his own department.

   b. 99 middle managers and technical specialists; about half were from the research and marketing divisions, the remainder from the whole spectrum of other divisions in the organization. They represented the second, third, & fourth echelons. Six seminars were held, from 1962 to 1966, each with about 20 participants.

   c. The seminars were conducted in the corporate headquarters facilities, & sponsored by the Management Development Department.

   d. Each seminar consisted of a 20-hour workshop in eight weekly or bi-weekly sessions, of about a half day each.

   e. The seminars and the research were led by the author of the referenced source document.

   f. The seminar was a highly participative educational experience, but not as theoretical as a university program. Content areas included motivation, interpersonal relations, communications, authority relationships, organizational change, planning, decision making, & management policy. Methods included lecturettes, case studies, assigned articles, oral reports & role playing.

3. Evaluation

a. Reactions of the participants to the program, and opinions of their colleagues formed the bases of the evaluation.

b. Methods:

The participants' reactions were determined by two means:

1) discussional summaries, at the last meeting; each attendee orally identified those aspects of the seminar that he felt were most and least useful.

2) Each participant anonymously filled out a 3-page check-list questionnaire, covering the various aspects of the seminar. This was done at the completion of the seminar, and again three months later.

The opinions of the participants' colleagues, concerning the impact of the seminar on participant's behavior, were obtained by informal interviews.

c. Results:

As the results from the two measures of participant reactions are parallel, the questionnaire results sum it up. (See conclusion below for summary.) More interesting were the results of the interviews with their colleagues, which were summarized as follows:

1. "An improvement in the attendee's communicating with his associates.
2. "A more favorable attitude toward his work.
3. "Increased interest in areas beyond the narrow confines of his immediate assignment.
4. "Better relations with members of departments other than his own.
5. "More interest (and skill) in helping to solve departmental problems.
6. "Greater interest in his work.
7. "More attention to collecting pertinent data prior to making a decision." (In some cases this was reported as a negative effect, in the sense of taking longer to make up one's mind.)

There were scattered negative responses in the interviews as well, especially on the part of older associates; and these focused largely in the area of the extra workload imposed by the attendee's absence from his regular work

and the futility of off-the-job training of whatever kind. The negative comments occurred largely among peers rather than among supervisors or subordinates, which may have indicated the presence of some bias. This possibility is heightened by the clear recollection that no such comments originated with respondees who had themselves attended the Seminar.

4. Conclusions (verbatim, from the unpublished source document, a master's degree thesis).

   1. In general the Seminars, in the opinion of the attendee, their associates and the Seminar leader, constituted a reasonably successful project in the development of managerial and professional personnel. They appear to have contributed to the personal growth and career progress of participants.
   2. The process used to select attendees suffered to some extent from the tendency of executives to use the Seminar occasionally to improve the morale of a restive employee regardless of his career potential. Perhaps in future projects of similar nature the impact of this tendency upon selection can be reduced.
   3. The use of participative instructional techniques for managerial and professional attendees was not only favorably received, but appeared to produce better results than were secured through non-participative methods. They are recommended by this experience for broader use in all developmental projects of related character.
   4. The Seminar experience, supported by the Survey findings that indicate similar courses in many other large corporations, would appear to endorse the benefit of this kind of in-company management development.
   5. Both the Seminar experience and Survey findings, supported by a great deal of the literature of personnel development and by the related experience of university graduate programs, appear to endorse the effectiveness of business case studies as an educational medium, especially for adult audiences of considerable experience in the case areas.
   6. The use of role playing in the Seminar type of setting, while it gives evidence of being both beneficial and widely used, may still require further refinement in an effort to improve its acceptance by adult business audiences. This is an area that deserves continued exploration.

7. Including a broad cross-section of functional specialties and a reasonably diagonal, vertical echelon distribution in the Seminar group appears to have many values. It is a practice that should be extended in future projects of similar nature.

8. The combination of managerial and professional employees (or functional specialists) in a Seminar group has values for both; it improves their understanding of each other and of each others' problems; and it occasionally awakens unrealized interests, thereby providing career stimulus.

9. The treatment of Business Ethics in courses similar to the subject Seminar is evidently not common; the Seminar experience, however, would recommend its broader coverage.

10. Having attendees make oral reports on brief articles treating significant issues related to the management process proved to be an effective developmental medium. Its wider use is recommended.

11. The conduct of projects like the Seminar provides the specialist in personnel development a valuable opportunity to evaluate the career potential of attendees, provided that he allows for the many differences between the Seminar environment and the work situation.

12. The Seminar environment even on an in-company basis affords great opportunity to the attendee to experiment in a low-risk setting with ideas and methods it would be much more expensive to test on the job.

Some Brief Summaries

Much of the research in this field of inquiry, not surprisingly, is conducted on an informal basis, without any intention of publication. As a result, it is difficult to dig out essential details and present them in convincing and enlightening manner, so that others can profit from the organizations' experience. To illustrate, consider the following vignettes, which are based on fragmentary information obtained mostly from structured personal interviews with survey respondents.

California Blue Shield, which is headquartered in San Francisco, reports some informal studies on the impact of a "Supervising by Objectives" program. This is a highly structured 30-hour program for the lower three levels of management, designed by an outside consultant. Major topics include setting objectives, solving problems, making improvements, getting cooperation, training, motivation, discipline, counseling, and control--in short, a wide range of supervisory functions. So far, about 300 participants have gone through the program, in groups of about 12 each.

A sample of 42 participants was chosen for research purposes. Their supervisors filled out questionnaires which indicates that, from the supervisor's viewpoint, the program had an unusually favorable impact on 28 of the participants, who immediately began implementing their newly-learned knowledge and skills.

These 28 established, then achieved, or exceeded, measurable work-related objectives within 30 to 90 days after the course, using action plans that required the application of the techniques learned during the course. The sampling (14% of the 300) indicates that 67% of the supervisors measurably improved their own operations in 30 to 90 days; 28% claimed improvements but could not support them with statistics; 5% had not been able to work on their improvement objectives. No data are available on the cost savings or reductions these results achieved although they are claimed to be "substantial".

The Dow Chemical Company has had considerable experience with unstructured laboratory training as a part of its management development effort, and has performed research to evaluate its effects. Here are some representative capsule summaries of their findings. (9)

Self-reported behavioral change information was obtained from 88 managers, two months after laboratory training, by means of a 19-item open-ended questionnaire. Their responses were then coded by the researchers into positive, neutral and negative categories. There were significantly more positive than negative responses, but also a large number of neutral responses, indicating a need to refine the instrument. It was also found that those managers who had attended "off-site" training sessions showed significantly fewer negative responses than those who attended sessions on Company premises. This finding was interpreted to support the value of holding such training programs away from the organizational setting.

Four independent studies, with samples of 24, 22, 12 and 14 managerial sensitivity trainees, were made, to test the hypothesis that trainees should be more accurate in their self-evaluations after training than they were before. Adjective check lists, varying in length from 12 to 22 items, with a 5-point rating scale on each item, were filled out by each trainee for himself, and also for each trainee by some of his colleagues (in some cases, by his fellow trainees, in others, by work associates). This was done both at the start and at the completion of the 40-hour laboratory session, and trends in the differences between self-ratings and peer-ratings were compared.

The results in none of the four studies supported the hypothesis. More detailed analysis of one group, however, showed substantial increases in the correlations between self-ratings and peer-ratings from the "before" to the "after" condition, for 9 of the 14 participants. As their peer-ratings were quite consistent, this was interpreted to mean that these 9 trainees seemed to have learned something about themselves during the training session, and hence they were able to see themselves more like others see them, after the training.

General Dynamics, Pomona Division, Ca.

This organization, which is widely recognized within the Aerospace Industry as a leader in human resources development, has an interesting approach to validating its management development efforts. Instead of research on the effects of a specific program, (the company sponsors a wide variety), they consider the collective impact of the programs on the company's human resources, in the following manner.

As a part of a company-wide manpower planning and administration program, the Division places a high degree of emphasis on manning tables and backup charts for all management positions as a guide in determining management growth, objectives, both on an individual and collective basis. A few years ago, a study showed that only 67% of the management slots had ready backups, that is, collateral or subordinate candidates who were prepared to take over the position with only minimal additional development. (This assessment is based on the pooled opinions of the incumbent of the given position, his superior, and a representative of the Personnel Department.) Over a three year period, this percentage of ready backups was raised from 67% to 90%, through a variety of development programs, including on-the-job training, professional seminars, and university short courses on company time, extensive in-plant courses covering both technical, administrative, and management fields, after-hours classes sponsored by the Management Club, and a wide variety of tuition refund educational programs dealing with a great cross-section of colleges and universities in the Southern California area. Highly specialized courses for selected personnel are identified for advanced graduate education at the MS and PhD levels generally under full-time educational programs. In short, in the view of line management, their management development program's effectiveness was gauged in terms of an overall strengthening of the pool of management talent. The company uses a comprehensive, systematic approach to human resources development, carried on down to the individual level; it is a coordinated effort between the employee, his manager, and Educational Development Counselors. To the maximum extent possible, this joint effort is implemented and monitored by educational/management specialists.

In addition to the above, the Division sponsors very strong in-plant activities associated with Career Development and Management Intern Programs whereby highly selected personnel identified as high potential are given extensive and refined training closely allied with in-plant functional upgrading.

In support of their overall upgrade programs, maximum effort has been placed upon establishing an in-plant development program for first-level supervisor/managers to meet the growing demands for excellence in this sector of management.

Professional level university courses are developed through joint effort of company training representatives and university department chairmen.

In addition to this gross measure of effectiveness, the Division has used reactions of trainees, and experimental written information tests, on a before-after basis, to get at learning.

Lockheed Aircraft, Burbank, Ca.

Like several other sophisticated companies covered by this survey, Lockheed has become involved with a form of organization development called "team building", which seems to be paying off on the ledger sheet. Here are some excerpts from an unpublished report, that pretty well sums up two applications:

1. "Lockheed, in its approach to team-building has bypassed the lengthy, costly, and job-removed preparatory aspects of organization development such as the Managerial Grid and sensitivity training. The groups consist of work teams and the sessions are work oriented; however, with the consultant's help, the group takes time to view the "process" of the meeting, to examine the effectiveness and freeness of communications. It is felt that this combination, compressing the experience, has helped achieve the good acceptance by busy executives."
2. "Work groups were called together for meetings in which impediments to production were examined and corrective actions sought. The psychologists insured that there was follow up on each item. As appropriate, "multi-level" meetings were held in which workers representing the work group fed their suggestions to higher management levels who were present, and these were explored on a problem solving basis. These meetings were almost entirely work-related, as opposed to concentrating on working conditions, employee policies, etc. Preliminary results showed that cost savings resulting from the meetings were equal to 12 times the cost of the program."

Robert B. Morton and Associates of Sacramento report two promising studies on the impact of OD programs designed to increase personal and organizational effectiveness by breaking down barriers between the various management groups.

1. In one anonymous organization, they evaluated an OD program conducted by company personnel. Three hundred and eighty managers from several levels of management of one division attended OD for eight days; a comparable division was used as a control group. After OD, Morton found that the experimental group was superior to the control on: profitability; more confronting of organization problems and risk taking; less conformity; supervisory skill (via Mahler's Coaching Practices Survey,

completed by the trainees' subordinates); higher Internal Control on Morton's adaptation of Rotter's Internal-External Control (I-E) Scale(10); less discrepancy in I-E scores between managerial levels.

2. This last finding was replicated in another anonymous organization, employing Morton's Organization Development Laboratory. Using the I-E scale in a before and after design, with voluntary anonymous participation, he found significant increases in total Internal Control scores and significant changes in the expected direction on four of the five subscales: Inevitability; Futility; "Can Do"; and Earned Effort; but not on Change. These results must be interpreted cautiously, in view of the discrepant sample sizes for the pre- and post-tests, which were 59 and 73, respectively. However, they seem to indicate an increased sense of personal responsibility, and perhaps increased achievement motivation, presumably as a result of the OD Experience.

Practical Management Associates, Inc., Woodland Hills, Ca.

This consulting organization has an interesting built-in mechanism to continually validate the effectiveness of their 3-day middle management development seminars. These seminars are highly participative, use primarily a case-analysis approach, emphasizing problem-solving in "real-life" organizational management.

Each participant comes to the program with a problem that he and his superior have identified and agreed on. At the end of the 3-day seminar, he is expected to come up with a plan to attack that problem. Then, some time later, after returning to the job, he reports back to the consulting firm on the disposition of the problem. This approach has been so successful in demonstrating to the client companies that their investment pays off in improved organizational performance, that PMA has an unusually high rate of repeat business with their client companies. In fact, they reported an increasing volume of business even during the 1969-1970 recession, when most other management training consultants were experiencing a serious decline in volume.

However, PMA has not compiled their feedback information into the kind of formal summary report that would be useful for scientific purposes, because PMA believes that the standard for evaluation varies from one organization to another and that the same standard

of effectiveness cannot and should not be applied to all organizations. Hence their measures of effectiveness may be of limited interest for a research-oriented survey of this sort.

Wells Fargo Bank, of San Francisco, reports the results of a combined O.D. and job enrichment program in one central department. While this program resembles traditional management development only slightly, it will illustrate an alternative approach that is gaining some currency in development circles.

Wells Fargo's approach is to involve all employees in a program of planned change, to improve productivity and morale through the application of job enrichment principles advocated by Herzberg. The program and research were administered by four members of the corporate management development staff.

The subject department was divided into a test group and two control groups, of about 15 members each. Work changes were introduced (in the test group only) and carefully monitored over a six-month period, to minimize the "Hawthorne Effect."

Follow-up evaluations revealed a marked decrease in overtime in all three groups, particularly in the test group. The number of customer-reported errors per 10,000 items processed, also declined in all three groups. (Improvement in the test group was not greater than in the controls, in part because supervisory inspection of work was decreased from 100% to 20%, as a part of the job enrichment, in which employees were made responsible for checking and correcting their own errors.) Absenteeism and voluntary turnover were also subsequently less in the test group. Finally, questionnaire results showed improved job satisfaction in the test group. (The questionnaire was not administered to the control groups.)

It was concluded that "although the job enrichment/organization development results are encouraging, ... this is not a panacea for all the Bank's problems, nor will it necessarily work in all cases. ...Job enrichment must be carefully introduced into any department and requires a careful preassessment of the conditions of the department and the value system of the managers involved."

STUDIES USING ONLY INTERNAL CRITERIA

1. North American Rockwell, Power Systems Divisions, Canoga Park, Ca.

2. Understanding the Why of Affirmative Action.

   a. The objective was to increase self-awareness and individual sensitivity in the area of minority group problems.

   b. The participants were 19 middle managers, who were identified as being potentially able to affect a large number of employees. Several black managers and one female supervisor were included.

   c. The sessions were held at company training facilities in Canoga Park.

   d. There were seven 3-hour meetings, held once a week.

   e. The instructors were two black professionals, one an administrator from San Fernando Valley State College, the other from a private agency in the Los Angeles area.

   f. The sessions consisted mainly of assigned readings and group discussions on black history and civil rights.

3. Evaluation:

   a. The effectiveness of the Seminar was gauged in two ways: 1) reactions of the participants; 2) changes in scores on a written quiz designed to measure "awareness".

   b. Methods

      1) The reactions of the participants were determined in a group critique at the end of the last meeting. Also, written, free-form comments were requested, and submitted after the conclusion of the program.

      2) The written quiz, consisting of objective multiple-choice and true-false questions, was administered before and after the program. Maximum possible awareness score was 34.

   c. Results

      1) In the group critique, a substantial majority of the participants expressed the belief that the Seminar was workable, and that it should be continued. Some emphasized the importance of top management being exposed to the Seminar, others felt that lower levels of supervision would profit the most. One participant expressed doubt as to the Seminar's value, while four did not commit themselves. The written comments were generally favorable and most recommended the inclusion of top management in subsequent seminars.

2) On the awareness test, the pre-test mean score was 16.2 and the post-test mean score was 22.1. The largest increase was 23, and 3 participants showed no increase. (The statistical significance of the changes was not indicated.)

4. Conclusions

By all the measures applied, a significant amount of learning took place in the pilot Affirmative Action Seminar. The experience in the eyes of most participants was both interesting and worthwhile. Most recommend continuation of follow-on seminars for other supervisors. Benefits to the company may be expected in the form of more positive resolution of human problems and a predicted improvement in the acceptance and attainment of affirmative action goals.

1. PEDR Urban Associates, Inglewood, Ca. (11)

2. Urban Executive Leadership Seminars for Black Professionals

   a. Objectives: "to assist black professionals in achieving a more positive and integrated personal identity, in further developing their organizational skills, and in fashioning appropriate urban executive roles in the community."

   b. Fifty one black professionals, from a wide variety of organizations in the Los Angeles area, divided into two groups of 20 & 31 participants. Qualifications for participation included: 25 to 35 years of age; at least a bachelor's degree; at least two years of supervisory or management experience.

   c. Seventeen seminar sessions were held at various locations in the Los Angeles area, including universities, government facilities and private organizations.

   d. Three weeks, concentrated.

   e. Two professional team trainers and several guest speakers & discussion leaders.

   f. "Several new approaches in both curriculum & teaching methodology were used. They included: (1) an emphasis on personal, professional & social values; (2) an integrated behavioral science curriculum covering self-identity and individual behavior, interpersonal relations, group dynamics, organization and management, intergroup relations, and planned community development ----; and (3) a teaching approach using individual and group teaching methods rooted in both the attitude change theory of social psychology and the self-awareness techniques of humanistic psychology." (12)

   g. A large variety of teaching methods and contents, too numerous and complex to present here in detail, were utilized. Included were an orientation session to establish objectives, a two-day retreat, group analyses of assigned readings and movies, role playing, modified sensitivity sessions, field experiences, and guest lectures.

3. Evaluation

   a. Learning (in terms of measured attitude changes), and self-reported behavioral changes and expressed reactions, were used to gauge the effectiveness of the program.

b. Methods:

A research design was used which measured the executives' attitudes before the program began, again at its conclusion, and finally several months later. In addition, the attitudes of a control group, which did not take part in the seminar, were measured before and after the seminar.

The major hypothesis of this study was that participating executives will experience significant attitude changes toward a more positive view of self, view of others, and view of the environment.

Selected scales from seven valid and reliable test instruments were used as operational measures to evaluate changes in various dimensions of three attitude clusters; view of self, view of others and view of the environment.

1) View of Self

Dimensions	Measures
* Self Concept	Shostrom's Personal Orientation Inventory (POI)
*** Independence	POI; Gordon's Survey of Inter-personal values; and Schutz's Fundamental Inter-personal Relation Orientation (FIRO-B)
* Achievement motivation	Sherwood's vAch scale.
* Leader Identity	Gordon's Survey of Inter-personal Values

2) View of Others

Dimensions	Measures
** Human Nature	POI
* Interpersonal Attitudes	Gordon's Personal Inventory and FIRO-B
*** Philosophy of leadership	Haire's Leadership Questionnaire

3) View of Environment

Dimensions	Measures
Emotional flexibility	POI
Mental flexibility	Rokeach's Dogmatism Scale
Value flexibility	Gordon's Personal Inventory

c. Results

Asterisks in front of the above dimensions indicate statistically significant changes, as follows:

* = significant change, in the hypothesized (favorable) direction, in Seminar Group I.

** = ditto, in Group II

*** = ditto, in both Groups I & II

d. Comments

The above results were followed up two months later. Twelve participants from Group I retook selected attitude scales, which indicated that the immediate changes persisted, and in most cases improved further.

The effectiveness of the program was also measured by expressed reactions of the participants in both groups. There was general agreement that the seminar objectives were achieved. A majority stated that they had improved in their ability to plan and use time more effectively. Most also agreed that they had learned techniques that allowed them to more effectively evaluate their own personal values and professional development.

4. Conclusions. These results justify the conclusion that executives who took part in this seminar experienced attitude change. Analysis of this data shows that changes in Seminar Group II were of less magnitude than those in Seminar Group I. This result is probably a consequence of having fifty per cent more participants in Group II and shorter Seminar sessions made necessary to accommodate their professional work schedules. The most significant attitude change occurred in executives' view of themselves and in their view of others. Members of both seminars strengthened their self-concept and became more independent. Executives in Seminar Group I increased their desire to achieve success and also their desire for leadership. Executives in both seminars adopted a more democratic philosophy of leadership while those in Seminar I reduced their desire to control others, and those in Seminar II developed a more positive view of man. Only in their "view of environment" did participants fail to make attitude changes during the seminar.

1. PEDR Urban Associates, Inglewood, Ca. (13)

2. Urban Executive Leadership Seminar for Mexican-American Professionals

   a. Objectives:

      (1) "assisting participants to achieve a more positive, integrated" self concept by encouraging them to re-examine and synthesize personal, professional and community values;

      (2) "sharing current applications of behavioral science research findings and assisting participants to develop related skills in individual behavior, interpersonal relations, group dynamics, organization and management, intergroup relations and planned community development;

      (3) "providing participants an opportunity to build working relationships with their peers and with leading business, professional and political leaders in both the Mexican-American and Anglo communities;

      (4) "guiding participants in the development of a positive role in the community, by planning a community development project that would provide experience in community problem solving; and

      (5) "encouraging participants to explore their personal identities by studying the contribution of the Mexican-American to the development of the Southwest."

   b. 25 Mexican-American executives from a wide variety of organizations in the Los Angeles area. Selection was based on the individual's management experience and on his potential for making a significant contribution to the community.

   c&d. Twenty seminar sessions spread out over a seven-week period in 1969.

   e. Seminar leaders included professional trainers from PEDR, representatives from the Mexican-American Industrial Opportunity Council and from the Institute of Executive Training, and numerous guest speakers.

   f&g. The contents, methods & formats were similar to those used in the seminars for Black professionals -- see p. 43.

3. <u>Evaluation</u>

   (Note: the following summary, derived from the source document, is partly verbatim and partly paraphrased.)

a. The type of evaluation may be classified as a measure of learning, in terms of attitude change, as contrasted with information retention.

b. A battery of attitude tests was administered in the first and last sessions of the program to evaluate changes in various dimensions of three attitude clusters: view of self, view of others; and view of the environment. The variables and instruments used were as follows:

(1) View of Self

Dimensions	Measures
* Self Concept	Shostrom's Personal Orientation Inventory (POI) (two scales)
** Self Direction	POI; Gordon's Survey of Interpersonal Values; and Schutz's FIRO-B
* Achievement Motivation	Sherwood's vAch scale
Leadership	Gordon's SIV

(2) View of Others

Dimensions	Measures
* Human Nature	POI - Nc Scale
Attitudes toward others	Gordon's Personal Inventory & FIRO-B
Philosophy of leadership	Haire's Leadership Questionnaire

(3) View of the Environment

Dimensions		Measures
Emotional flexibility		
*** Mental flexibility	=	POI (six scales)
Value flexibility		Gordon's Personal Inventory (one scale)

c. Results

Asterisks in front of the above dimensions indicate statistically significant changes, in the hypothesized (favorable) direction, as follows:

* = significant change on one scale

** = significant change on two or three scales

*** = significant change on 3 of the 7 scales

d. Comments

Unlike the report on the seminars for Black professionals, participant reactions and delayed follow-up attitude measures were not reported for this seminar.

4. Conclusion. "The before-after results of six attitude instruments encompassing twenty-five separate scales show that the Mexican-American professionals who participated in the Executive Leadership Seminar experienced significant attitude changes as a result of their seven-week experience together. These changes mainly occurred on two dimensions - attitudes related to their view of themselves and to their image by increasing in self regard and becoming more self-directing. At the same time, they developed more openness, flexibility and sensitivity toward the environment. Assuming a relationship between attitudes and behavior, it is likely that as a result of the seminar, these Mexican-American professionals will perform more effectively as executives and as community leaders."

1. System Development Corporation: Santa Monica, Ca. (14)

2. Management System Training Using Leviathan

   a. Objectives:

      1) "To provide an environment for the students to appreciate the dimensions and limitations of a complex managerial task.

      2) To develop a capability for effective management of what can be managed and the ability to "live with" the balance.

      3) To provide a setting for group interaction.

      4) To assess and develop abilities and skills, including:

         . Identification of values, establishment of objectives, and criteria for measuring managerial performance.

         . Preparation of plans, commitment of oneself to them, and carrying them to completion.

         . Personnel assessment, assignment, and training.

         . Securing of the optimum performance from subordinates.

         . Understanding of informal organization and communication in large organizations.

         . Management and utilization of information.

      5) To establish attitudes through "internalization" by doing rather than 'identification' by intellectual activity."

   b. Participants: The study was done in conjunction with a regular graduate course in Organizational Behavior, at USC. "The class participating in the Leviathan interaction consisted of 28 Air Force officers enrolled in a Master's degree program in R & D System Management (referred to as the RDSM program) and the USC Graduate School of Business. All class members had degrees in science or engineering, approximately one third of them from one of the military academies. Rank ranged from lieutenant through major; length of service from 2 to 15 years. Median age was 33 years."

   c. The setting was at System Development Corporation facilities.

d. "The Complex Computerized Organization Simulation Program (CCOSP) was from the 6th through the 12th week of the course, with two sessions per week, each of 3 to 4 hours' duration. The first three periods were for training in operation of the equipment. The fourth session was organizational, with the group choosing a leader, assigning other positions, and setting general policy. The remaining eight periods were spent operating the simulation. About every two hours during the last five sessions, play would cease while the instructor "debriefed" the group and led its members in discussing the causes and effects of their behavior."

e. The trainers (or more appropriately, educational coordinators), were two professional psychologists with three assistants.

f. "Leviathan is a computerized simulation for studying communication in large social organizations. It comprises a theoretical frame-work and a system of computer programs and employs a series of experimental simulations in a laboratory, experimental controls, and quantitative measures of organization performance. The method permits the conduct of experiments on the development of social organizations and the impact on individuals of participation in a feedback-oriented organizational environment. Leviathan programs simulate elements that are common to a variety of organizations; the model operates within an environment created to provide an operational context for the interaction between the organization and the model.

"Leviathan has five basic features that can be useful in developing managers: 'abstract' realism, complexity, human interaction, cooperation, and information handling."

Several observers were present throughout the exercise. They were able to observe the participants via special mirrors without interfering with the proceedings.

g. Note that the present summary is a drastic oversimplification of a complex situation, which is explained in considerable detail in the source document. Parts of this summary are direct quotes; other parts are reworded and reorganized.

3. Evaluation

a. The effectiveness of the exercise was measured several ways, as detailed in section b. below. These can be categorized as:

1) participant reactions

2) attitudes toward various aspects of the exercise

3) changes in their managerial values (=learning?)

4) feedback from observers

5) judgments from achievement of objectives

b. Methods:

1) Participant reactions were obtained by means of:

a) small group debriefings and class discussions interspersed throughout the exercise; and

b) anonymous, written individual evaluations at the end of the course and again a year later.

2) Attitudes were measured by a special 15-item, Likert-type questionnaire.

3) Changes in managerial values were measured by means of a standard instrument called "A Comparison of Managerial Values," which is based on Blake & Mouton's Managerial Grid. This test was given before and after the exercise.

4) Feedback was given by means of free-form, written comments from three observers.

5) Judgments about the extent to which the objectives of the exercise were met, were made by the instructors.

c. Results (in terms of the above methods):

1) a) "The responses to the broad questions generally indicated that the experience had been valuable; in fact the responses were extremely enthusiastic." (Several pages of comments are presented.)

b) On the anonymous written evaluation, submitted at the end of the course, there were 20 favorable, 6 neutral and and 2 negative responses. On the follow-up evaluation a year later (covering the entire MBA program), several favorable comments indicated increasing appreciation for the value of the simulation experience.

2) On the attitude questionnaire, the results were as follows: The class was divided into upper and lower groups on management responsibility in the Leviathan hierarchy, and the two groups' responses averaged separately and together. The results indicated that both subgroups felt that the experience was worthwhile, and that the two subgroups did not differ significantly. However, the less structured feedback indicated that the class felt that the upper management had learned most. (This was confirmed by the next instrument.)

3) On the "Comparison of Managerial Values" test, the top management group showed shifts away from 9,1 and 5,5 styles, and toward 1,1 and 9.9 styles (not significant, however). The lower management group shifted in the direction of 1,1 (significant). When the two subgroups were combined, they showed an overall shift toward 1,1 (significant). (This anomalous, unpredicted change to a theoretically inferior style of management, on the part of the lower-level managers, was perhaps attributed to their heavy involvement with technological management, which did not give them an opportunity to interact with other people). According to one of the researchers, in a private conversation with the present reviewer, this interesting training outcome may have important implications for team training: beware of the possible mal-adaptive effects of relegating trainees to chronic subservient positions; rather, be sure to rotate trainees, so that everyone can practice the kind of behavior appropriate to genuine leadership.

4) Feedback from the three observers covers about seven pages in the source document. Here are a few selected but representative comments:

"The Leviathan simulation represents a powerful program for management training and organizational design."

"Leviathan was universally perceived as much more valuable than a T-group training situation."

"The Leviathan vehicle can be a valuable resource in training people to operate effectively in organizations, provided that considerable additional effort is devoted to the design of each experience, as contrasted to the design of the vehicle itself."

5) In evaluating the exercise in terms of the stated objectives, the instructors feel that "in summary, many of the objectives of the exercise were met; the remainder would probably have been met if the exercise had been two or three times as long."

4. Conclusions

"Leviathan, or a simulation like it, can be a very valuable tool in management education. "Whether Leviathan is the appropriate vehicle for this simulation depends upon the specific purposes of the management education or training, and the cost/effectiveness of Leviathan in relation to other simulations." (A list of 10 desirable characteristics of a computerized simulation is presented, based on the investigators' experience in this program.)

1. University of California, Los Angeles, Ca. (15)

2. Sensitivity Training Program

   a. The objective of the program is, briefly, to develop social awareness and perceptual sensitivity in the participants, in order to promote their behavioral effectiveness, and personal and professional development.

   b. The participants were 67 middle and upper managers and professionals from a variety of organizations in the Los Angeles area. Most were men, ranging in age from mid 20's to late 50's, with about 75 percent between 30 and 50. They worked in 5 T-groups of about 14 or 15 members each.

   c. The setting was at the UCLA Graduate School of Business Administration, except for an introductory weekend at the University's Lake Arrowhead conference center.

   d. The program lasted for five weeks, meeting weekly for about 4½ hours, including dinner.

   e. The trainers were five experienced professional T-group leaders on the UCLA staff, one for each of the five groups.

   f. The contents and format of the T-groups were typical unstructured, highly participative group discussions, in which the participants interacted in an environment conducive to trying out and receiving immediate feedback on a variety of interpersonal behaviors in a low-risk atmosphere. As there is no pre-determined agenda and the actual events that occurred are considered confidential, it is not possible to elaborate. There is no indication that any unusual events took place, aside from the normal variations that characterize typical T-groups.

   g. Note that in the source document, the effects of T-groups were compared with the effects of two other forms of human relations training. However, as the subjects of the latter two groups were mostly students and housewives, they will be excluded from this summary, except for brief mention in section 3 c.

3. <u>Evaluation</u>

   a. The effectiveness of the program was measured in terms of learning, that is, attitude change; in addition, behavioral change was measured by means of a "self scale" and questionnaires filled out by the participants' spouses.

b. Methods:

The 67 subjects were split into two groups of 37 and 30. One group was administered the Gordon Personal Profile, the other the Gordon Personal Inventory, on a before-and-after training basis. Because of administration problems, there was considerable shrinkage in the post-test sample size, so that the following N's resulted:

	Number of Usable Tests	
	Before	After
Gordon Personal Profile	37	24
Gordon Personal Inventory	30	20

(Each of these two tests has four sub-scales.)

To supplement the objective tests, on the post-test, each participant filled out a parallel "self-scale" that was designed to measure felt changes in the four dimensions represented by the test. Likewise, the participants' spouses were asked to fill out a similar questionnaire, indicating perceived changes, if any, on the same four dimensions. Altogether, 33 spouses participated. Finally, a sociometric instrument was filled out by the participants to get at factors of interpersonal acceptance and rejection, mutuality of ratings, and accuracy of perceiving how others will rate oneself.

c. Results:

Numerous hypotheses were tested, relevant to expected changes in the measured variables. On the objective tests, only one dimension, Responsibility, changed to an extent greater than could reasonably be attributable to change. The average score increased from 22.6 to 24.8; t= 1.75, p. 05.

The results of the "spouse scales" were expressed in relation to similar measures made in the other two forms of human relations training included in the source document study. The T-group subjects were seen by their spouses to have increased more in Ascendancy than the Human Relations class members did; but less in Vigor than the Developing Personal Potential class members did.

On the sociometric instrument, there were no significant results for the T-groups.

4. Conclusions

While it is difficult to draw firm conclusions from one study, this research showed that it is difficult to gauge the effectiveness of sensitivity training in terms of scores on personality tests and questionnaires. There is suggestive evidence that participants may increase somewhat in such behavioral traits as Responsibility and Ascendancy, but these effects should be confirmed by cross validation studies before they are accepted with a high degree of confidence. Also, a larger battery of instruments might be more fruitful.

Conclusions

If the above research results are representative of current practices, perhaps a few common themes or trends in the field of management development, and research on its effectiveness, can be identified. However, since comparable reliable information from previous eras is not available, it is difficult to determine whether these are genuine trends, or merely a heterogeneous collection of snapshots of the present "state of the art" that have little in common with each other or with earlier efforts, therefore demonstrating more chaos than orderly, directional tendencies. Therefore, at the risk of overgeneralizing the findings and opinions of a limited and biased sample of respondents, the following conclusions are suggested:

1) Management development programs take on a bewildering variety of forms, with an almost infinite number of philosophies and approaches. For survey purposes, "management development" was very liberally defined, with the result that some of the programs reported herein might not even be recognized by some readers as management development at all; similarly, some readers may not recognize some of the offerings as "research".

2) Many management development programs are based on a set of stated or implied objectives, but the objectives are rarely operationally defined.

3) In a large number of companies, "management development", with its traditional emphasis on personal growth, is being superseded or at least supplemented, by "organization development", which is more concerned with the environment or culture of the organization, locating and solving organizational problems (such as communications, planning, organizing, coordinating efforts, setting objectives, etc.), and making the kinds of changes that will in turn facilitate individual and team growth.

4) Management (and Organization) Development programs are tending to be more closely integrated with other personnel programs, such as manpower planning, management assessment, performance appraisal, and human resources accounting systems. In short, development programs are being treated more like sub-systems within a larger framework of related programs, than as separate, semi-autonomous efforts.

5) Increasingly, organizations are relying on outside resources for putting on development programs, phasing out of large in-house training staffs, and retaining only a small nucleus of professional training administrators, who work with line management to design programs tailored more directly to their needs, (How much of this apparent "trend" is hard to determine). There seems to be less reliance on standard, classroom-like seminars through which supervisors and managers are passed on a routine assembly-line basis, and more emphasis on tailor-made programs for specific groups or individuals.

6) The behavioral sciences are becoming increasingly influential in the theory and practice of development, with increased emphasis on motivation, problem-solving and decision-making, the development of cognitive and communications skills, and attempts to change value systems and attitudes; and less emphasis on personality and "human relations" matters, in isolation from work itself.

7) Relatively few management development programs have been "validated" in the sense of being supported by empirical evidence on their effectiveness. In fact, because of the difficulty of performing research in this field, it is likely that proportionally less research is being done on development than on management testing and assessment programs.

8) The volume of research on the effectiveness of development programs is increasing rapidly--several doctoral dissertations, not reported here, have been found to be in process. Aside from a few training specialists who dismiss the very feasibility of such research (and the many who are not research oriented or are actively opposed to it), there seems to be increasing awareness, on the part of organizational leaders and professionals, of the economic and social benefits accruing to a scientific approach to manpower problems in general.

9) Researchers are becoming more sophisticated and creative in their research designs. As is the case with educational research, the question can no longer be simply stated in terms of "the effects of management development", but in terms of "what kinds of effects, of what kinds of experiences, for what kinds of subjects."

For example, a "rational" approach may have very positive effects on highly educated managers, but little impact, or even maladaptive effects, on uneducated managers; however, few studies have been able to utilize moderator variables or multivariate research designs, because of small sample sized and inadequate resources. Our inability to exploit existing technology (such as the computer) and research methodology (such as advanced statistical techniques and politically unpopular psychological research instruments) too often results in inconclusive and equivocal research "findings" that are practically useless for decision-making purposes.

10) The presence of uncontrolled variables, such as organization changes and seasonal and secular economic trends that occur during the measurement period, makes it difficult to conclusively attribute criterion data to the management development experience.

11) Even though the majority of the hitherto unpublished studies reported herein seem to support the effectiveness of management development programs, we should be cautious about accepting the conclusions at face value. This is because there is an unknown, probably high degree of bias in reporting only those studies that "work out." (This caveat, by the way, also applies to the published literature!)

Recommendations

The following recommendations are offered to organizations interested in evaluating the effectiveness of their management development programs.

1) Management development program objectives should be specified in operational or behavioral terms. That is, the criteria of performance should be so defined that a judgment can readily be made as to the extent to which the program objectives have been met.

2) If research on the effectiveness of the program is considered desirable, provision for the research should be designed into the program from the beginning, not applied on a post-hoc basis. Special attention should be given to replication studies, because even with statistically significant results the effects may be unstable, or situationally anchored.

3) Depending on the estimated value of such research in relation to its cost, the type of evaluation chosen should be the one with the most meaning for the particular program; ideally, in most cases, this would be some objective measure of results, such as productivity, efficiency, cost reduction, improved manpower statistics, etc. However, in the absence of such high level criteria of effectiveness, a lower level, such as trainee learning or attitude change, might be preferable to not measures at all. Participant reactions are of severely limited value for scientific purposes, no matter how valuable they may be for other purposes.

4) Whatever evaluation measures are selected, they should be tied into the stated objectives as specifically and explicitly as possible.

5) Evaluative research should allow for the operation of moderator variables, (such as participants' value systems, attitudes, cognitive factors) that are likely to influence the relationship between the predictor (the development experience) and the criterion of effectiveness.

6) Increased emphasis should be given to research on criteria of effectiveness, as an approach to validating not only development programs, but also the merit system as a whole.

7) Increased emphasis should be given to integrating T & D programs with other manpower programs, particularly assessment and performance appraisal systems. This integration

effort might take the form of interdepartmental appointments, liaison officers, temporary interdisciplinary task forces, etc.

APPENDIX I

Please return this form by June 30, 1970, in the self-addressed envelope provided.

Name _____

Title _____

Organization _____

Address _____

_____

_____

Telephone _____

.....

1. Have you been involved, during the past few years, in research on the validity or effectiveness of management training and development programs?

   If Yes, please indicate: Yes No

A. The research included:

   1. Top level managers & executives

   2. Middle managers

   3. First-line managers:

      a. White collar

      b. Blue collar

B. The research results were:

   1. Published

   2. Not published

   (If published, please provide references on the reverse, or attach separate sheets.)

C. The most convenient dates & times:

   to telephone or visit

   you (during July only), would be

   1. (1st choice):

   2. (2nd choice):

---

2. Do you know of any such research

   A. In progress? Yes No

   B. Completed recently, but not published?

      Yes No

   (If Yes, please give names & address on reverse, or attach separate sheets.)

---

3. Do you wish to receive a copy of the final report of this study? Yes No

APPENDIX 2

OUTLINE

1. Organization and/or sources of information
2. Title and description of the management development program
   a. Objectives
   b. Participants--number, level, type
   c. Setting
   d. Duration and schedule
   e. Trainers
   f. Contents, methods and formats
   g. Remarks, if any
3. Evaluation of the program
   a. Type of evaluation (reaction, learning, behavior change, results)
   b. Methodology
   c. Results
   d. Comments, if any
4. Conclusions

APPENDIX 3

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